

ELECTRICAL CONTACTING OF THIN ENAMELED WIRES  
OF SECONDARY WINDINGS OF IGNITION COILS  
HAVING A CONTACT CROWN AND CONTACT ELEMENT

Field Of The Invention

The present invention relates to an electrical connection setup for manufacturing an ignition coil, particularly a rod-type ignition coil having a coil shell with a high-voltage outlet as well as a low-voltage outlet.

5 Background Information

Ignition coils produce high-voltage sparks. This spark flashes over between the electrodes of the spark plug set up at the ignition coil, thus igniting the air-gasoline mixture of an internal combustion engine, for example. Normally, this spark plug having an ignition coil is supplied with high voltage. A primary winding and a corresponding secondary winding are provided  
10 within the ignition coil. At one end, the primary winding is coupled to an ignition and starting switch, while its other end is connected to a so-called contact breaker.

The secondary winding, that is, the winding responsible for generating the ignition spark, is connected in the interior of the ignition coil to the one end of the primary winding, so that it is grounded. The other end of the secondary winding is connected to the high-voltage outlet,  
15 which in turn is connected either to an ignition cable leading to the spark plug, or at which the spark plug is set up directly.

The secondary winding itself is made up of a thin wire which is coated with a suitable layer of enamel so as to avoid the contacting of the individual wires when wrapping the coil shell. Once the secondary windings have been wound onto the coil shell, the ends of the individual  
20 wires are contacted. Normally, thermal contacting methods such as soldering or welding, for example, are known for this purpose.

Different work processes are required especially with regard to the contacting of the primary and secondary windings. This entails higher installation costs, multiple assembly steps and also a certain number of connecting parts necessary to make an appropriate electrical  
25 connection.